MODIS TECHNICAL TEAM MEETING

August 12, 1999

Vince Salomonson chaired the MODIS Technical Team Meeting. Present were Ken Anderson, Bill Barnes, Francesco Bordi, Bruce Guenther, Gene Legg (NOAA), Ed Masuoka, Harry Montgomery, Bob Murphy, George Serafino, Dave Toll, and Bruce Vollmer, with Michael Hohner recording the minutes.

1.0 SCHEDULE OF EVENTS

Next PI Processing Meeting (GSFC) Location TBD	September 8, 1999
Terra Launch Vandenberg Air Force Base	No earlier than October 4, 1999
Next MODIS Science Team Meeting (GSFC-area) Location TBD	Tentatively October or November 1999
AGU 1999 Fall Meeting (San Francisco, CA)	December 13–17, 1999
IGARSS 2000 Abstracts Due	December 1999
AGU 2000 Spring Meeting (Washington, DC)	May 30–June 3, 2000
IGARSS 2000 (Honolulu, HI)	July 24–28, 2000
EOS-PM Launch	December 21, 2000

2.0 MINUTES OF THE MEETING

2.1 Instrument Report

With the third and final thermal vacuum test completed on Tuesday on FM1, Salomonson reviewed his understanding of several issues affecting the instrument through a discussion with members of the technical team. Input was gathered from Anderson, Barnes, Guenther, Montgomery, and Murphy.

Several of the issues that have been discussed involve problems with either Side A or Side B electronics. MODIS allows for cross-strapping among the sub-

components of either side. There are no individual components that are bad on both sides of the electronics. Cross-strapping is a possible solution for the ADC problem (discussed below).

There is a great deal of uncertainty about the issue with the analog to digital conversion (ADC) bin size for the six PC bands (31-36). It is still to be determined whether bin sizes are not equal at the least significant bit level or at more than the least significant bit level. SBRS believes that only the least significant bit is affected, but the raw data appear to show as many as three bits may be affected in the raw data. This problem only applies to one side of the redundant electronics. There may be a solution via cross strapping whereby there are two (i.e. redundant) operational electronic strings. Analysis of the TV-3 data continues and MCST will review it with MODIS Science Team members on August 17th.

With respect to the vignetting issue or responsivity change, Anderson said that there is no change of our understanding of this problem at present. Two bands (23 and 31) show a 3-5% decrease in responsivity.

The noise induced into the system when the blackbody heater is on (or sector drift) can be resolved by a workaround in which the heater duty cycle is reduced to 30%, resulting in a blackbody temperature of 295K at the beginning of the mission and higher temperatures later. This will require extrapolation for higher land and ocean surface temperatures.

The misregistration issue still exists: over the three thermal vacuum cycles that were conducted on FM1, the misregistration discovered earlier did not change. Anderson said that a complete temperature cycle of the radiative cooler also did not change the misregistration. Barnes said that the science team members need to determine whether the present misregistration would affect their science and they need to be informed whether or not misregistration will continue to remain stable. Guenther said that MCST is unconvinced that they have properly represented the uncertainty on these measurements: some things that are thought to be real may in fact be measurement errors. Guenther also added that once MCST can characterize these uncertainties, he is confident that an adjustment can be made. This data will also continue to be analyzed.

SBRS representatives will be present at GSFC next week to review and discuss the science issues created by the issues with the FM1 instrument.

2.2 SDST

Masuoka reviewed his weekly Launch Ready PGE status chart (Attachment 1). He has added a column to the PGE chart (far right) to provide more information about problems with inserts into the archive: red indicates that there is an error

in the MODIS product metadata and that the product will not insert into the archive; green indicates that either it inserts cleanly or there is a workaround with a minor impact; gray indicates that it is not an archived product; and white indicates that it has not been tested. Where the far right column is red and "Inserts into archive" is blue, there are metadata errors in the ECS system. Once these errors are corrected by ECS, these inserts should move to green status. Masuoka said PGE29 (L3 Fire - 8 Day), PGE44 (Sea Ice - Daily), and PGE45 (Snow - 8 day) are products for which there are problems with the inserts into the archive and the exact solution to the problem has not been worked out (see last paragraph in SDST section.)

Masuoka said that many of the metadata changes requested in the ECS system could be resolved fairly quickly. However, it currently takes4-10 weeks to get a change done by the ECS contractor. Masuoka will contact Dolly Perkins and Mike Moore to determine if there are ways to speed up the process of getting simple metadata changes made in the ECS system.

Masuoka further clarified the "Inserts into Archive" (read left) and "Work Around or Inserts" (read right) columns of his chart for Murphy and the team. Blue on the left side and green on the right side indicates that it will work now even without a final fix. However, a final fix will make it better. Blue on the left side and red on the right side indicates that until they develop their fix, we cannot place it in the archive. Blank on the left side and red on the right side indicates that a product will not insert in the archive and the fix to get it to insert (either PGE fix or ECS fix) has not been worked out yet.

2.3 MODIS Level 1 Integration

Bordi provided copies of his summary status report on MODIS Level 1 Integration (Attachment 2).

2.4 Launch Status

The official launch date of Terra is still October 4, 1999. An ultrasonic inspection test has been completed on the RL-10 rocket engines. Preliminary indications are that the brazed joints look good, with minimal voids in the brazed joints. Along with the recent structural modeling analyses, the engineering community will review the results of the engine inspection on August 17th. A Lockheed engineering review board will meet on August 18th and a decision will be made whether or not the flight constraint can be lifted.

A NASA review process will commence during the week of August 23rd and will be presented to senior NASA management during the following week. Assuming the successful outcome of the Lockheed and NASA reviews, fueling of the spacecraft would commence during the later part of the week of September 6th.

2.5 GDAAC

Vollmer reviewed the GDAAC Notes for MODIS Technical Team Meeting 08-12-1999 (Attachment 3). He reported that ECS Drop 5A has been installed and checked out in all modes. Regression testing on baseline PGEs in Drop 5A has also commenced. PGE01 and PGE02 (v2.1.6) are in Ops and PGE03, v.2.1.0, will be in Ops in the next day or so. In the next week, regression testing is expected to be completed so that all baseline PGEs are brought up to Ops mode.

Vollmer asked Masuoka if there is a patch forthcoming for PGE02. Masuoka said that there is, but the person who will install it will not be back until Monday. Vollmer said that they would wait for the patch for 2.2.0, proceed with testing it, and then place the new version (2.2.1) in Ops mode. [Masuoka noted after the Technical Team meeting that Version 2.2.1 was a change to the PGE Perl script in MODAPS and that he believes the GSFC DAAC has the latest patches for the at-launch L1B software.]

Vollmer also announced that the DAAC participated in the informal ORR. According to the results of the subsequent DAAC managers meeting, the DAAC managers have declared that the DAAC's will be operational as of August 23, 1999. The requirements for operational readiness were discussed.

2.6 NOAA

NOAA is meeting with Al Fleig to discuss their Level 0 processing module (rate-buffered to Level 0 conversion) and its possible use for NASA processing. Also, NOAA will be planning a test of MODIS simulated data through the NOAA system, in addition to the EDOS data flow tests, to ultimately compare NOAA's results with MODAPS.

2.7 MAST

Hohner said that there would be a MODIS/MODARCH end-user search session this fall. The date and location are TBD/TBA. He also said that effective August 20, 1999 there will be a username/password change for the MODARCH database. At either the Aug 19th or Aug 26th Technical Team Meeting, Hohner will present the MODIS Instrument News system that he has developed.

2.8 Odds and Ends

Murphy reported that the VIIRS sensor requirement document (responsive to NASA's requirements) has been submitted once again to the two contractors. Murphy is working with the contractors to clarify requirements. He said that the selection of the CrIS contractor would be announced next week.

3.0 ACTION ITEMS

3.1 Action Items Carried Forward

1. Masuoka and Kempler: Discuss with Mike Moore the resolution of issues regarding production plan failures at the DAAC when fractured data is received from EDOS and related ECS/DAAC issues.

Status: This item remains open.

2. Legg: Find out when and how NASA MODIS representatives will be integrated into the NOAA review process and report on status to the MODIS Technical Team. NOAA has agreed to have MODIS representatives serve on the NESDIS data product review boards. However, MODIS representatives have not yet been invited to participate in an advisory panel.

Status: This item remains open.

3. Murphy and Conboy: Inputs for the EOS Data Products Handbook PM-1 Volume 2 were due to Barbara Conboy by June 17, 1999.

Status: This item remains open. Conboy is awaiting final corrections/input from Bob Murphy.

4. Hohner and Howard: Develop a weekly MODIS news page linked to the MODIS home Web site. It should include hot items and reflect weekly progress.

Status: This item is in progress. Completion is expected by mid-August.

5. Masuoka: Submit an EOS-PM Data Product Update to ESDIS.

Status: This action item remains open.